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Social Supply and the Potential for Harm Reduction in Social Media Drug Markets

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Abstract

Background: Existing studies have highlighted the potential for increased drug market risks from buying drugs via social media involving strangers, such as receiving adulterated drugs or being robbed. However, social supply-driven social media drug markets may also offer enhanced social dealing and harm reduction opportunities. **Aim:** To explore how social media platform features that enable expanded social networking may also support safer social drug dealing and other harm-reduction behaviors. **Method:** Thematic analysis of anonymous online interviews with 33 people who buy and sell drugs via social media in New Zealand. **Results:** Participants (median age 24; 22 male, 10 female, 1 gender diverse) accessing drugs via social media mostly utilized established social networks. These personal networks offered many benefits commonly associated with social media drug trading (i.e., safer and secure drug purchasing). Benefits included reducing the risk of receiving adulterated substances and being victimized. Social media affordances, which participants used to expand their everyday social networks, could also increase participants' ability to leverage a broader social drug supply network and access related harm reduction benefits. Some participants used darknet markets to buy drugs, which they then resold to "friends" via social media platforms, facilitating supply channels that were largely "separated" from local physical drug markets and associated problems of fraud, violence, and organized crime. **Conclusion:** Social media drug markets offer a range of harm reduction benefits that contribute to a lower-risk local drug market. We suggest this may reflect a closer alignment between social media platform affordances and their adaptation to social supply drug trading.

Keywords

social media drug markets, online drug markets, harm reduction, social supply

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Introduction

Social media drug trading is evolving quickly, with studies pointing out this development makes drugs more accessible to young people (e.g., Demant & Bakken, 2019; McCulloch & Furlong, 2019; van der Sanden et al., 2021). The resulting heightened drug accessibility reflects the convenience of social media and related drug trading behaviors. The portability of smartphones and familiarity of interactive social media platform features that streamline the creation and sharing of content, is coupled with drug transactions that are often based around quick local pick-up or delivery (Demant et al., 2019; Moyle et al., 2019). Underlying these factors are the ways in which social media enhance people's ability to connect with one another, either as strangers or via existing social networks (e.g., Carr & Hayes, 2015).

Bakken and Demant (2019) argue social media drug markets make it easier to connect with *both* people one already knows and strangers. However, most current research has focused on the latter, that is, impersonal, "profit driven" (Moeller, 2022) social media drug markets characterized by ease of entry and transactions between strangers. Examples include Facebook selling groups (Demant et al., 2019), Discord drug servers (van der Sanden et al., 2022b), and anonymous seller profiles on platforms like Instagram and Snapchat (McCulloch & Furlong, 2019). Impersonal social media drug markets have also been disproportionately reported in the media (e.g., Adkisson, 2022; Nichols, 2020). They are the focus of much adult public concern, given that the young userbases of platforms like Snapchat, Instagram, Discord, and TikTok are likely to use or be targeted by this type of selling (Lerman & De Vynck, 2021). This focus reflects the entrenchment of broader cultural perceptions around drug dealers "targeting" young people for economic gain or deliberately selling them adulterated drugs (Coomber, 2006). However, the potential for young people to be at risk of harm while participating in this type of social media drug market is illustrated in the United States, where the sale of fentanyl-laced pharmaceuticals by anonymous sellers on platforms like Snapchat has resulted in a number of teen overdose deaths (e.g., Hoffman, 2022; McCormick, 2021).

Researchers have suggested that all drug markets, regardless of the extent to which they are digitally mediated, present users with different configurations of potential for increased and *decreased* harms (see e.g., Aldridge et al., 2018 regarding darknet markets). In this vein, the harm reduction potential of social media drug markets has yet to be explored in depth. The concept of harm reduction broadly describes different strategies or practices which prioritize the goal of reducing drug-related harms, acknowledging that a reduction in drug use may not be desirable or feasible, and that drug harms may be reduced from other vectors (Lenton & Single, 1998). This article uses harm reduction to describe the role of social supply behaviors in reducing the potential for drug market harms such as drug adulteration for buyers, and victimization for sellers (e.g., Potter, 2009).

This article aims to address this current research gap by exploring how social media drug markets may facilitate the harm reduction benefits of a less-commercial local drug market environment characterized by social supply (e.g., Potter, 2009). As part of this endeavor, we explore how these benefits may be linked to darknet drug supply via "darknet social dealers"—people who purchase drugs from the darknet and resell to "friends" using social media and messaging apps. To illustrate how social media platforms may impact on social supply practices and their associated harm-reduction benefits, we draw on the communications theory of affordances (Gibson, 1979). We use affordance theory to discuss how particular platform features lend themselves to an increased ability to link others to their local, physical social networks, facilitating the streamlining of an expanded social supply dynamic.

The structure of our article is as follows. We begin by outlining the concept of affordances and link this discussion to the importance of alignment between people's online and offline[1] social networks on platforms like Facebook, Snapchat, and Instagram. This section is followed by a discussion of the social supply literature, and its links to harm reduction impacts. We then briefly outline the New Zealand drug market context and what is known about social supply and social media drug market dynamics locally.

Finally, we discuss the potential for overlap between darknet drug trade and social media drug markets, and how this may impact harm reduction resulting from social media social supply. The presentation of the findings of our study draws on this literature review by first emphasizing the ease with which social networks can be expanded on social media, and how this facilitates many of the harm-reduction benefits often associated with social supply. We then illustrate how social media and messaging app features can be used to root potential drug connections more firmly and efficiently into offline social networks, allowing people to expand social supply networks at little additional risk. Finally, we tie our results into the potential role of the "darknet social dealer" in facilitating social supply networks that may be farther removed from other, existing, local drug supply channels. In our discussion, we further contextualize our findings using affordance theory, contrasting the potential benefits of social media social supply against what can be the increased potential for drug market harms associated with more anonymous social media selling. We also identify avenues for further research involving harm reduction in social media drug trading more broadly.

Affordances and Social Media

This article uses the concept of affordances (Gibson, 1979) as it relates to communications and social media to frame our exploration of participants' experiences using these platforms for social supply and social dealing. In this context, affordances represent the relationship between a platform's design features and user behaviors (Hutchby, 2001; Treem & Leonardi, 2013), or the "possibilities of action" a platform presents to its users (Evans et al., 2017, p. 36). Scholars acknowledge that the design and orientation of different social media platforms have implications for how people can use and adapt them (Evans et al., 2017; Hogan & Quan-Haase, 2010). Important to this article is the extent to which platform affordances "support" and "resist" user actions. For example, Davis (2020) uses the terms *demand, request, encourage, discourage, refuse, and allow* to describe the different ways in which platform affordances respond to user behaviors (see also, Davis & Chouinard, 2017). In this article, we principally consider how *three* social media affordances interact to facilitate expanded social supply-driven drug markets on social media: visibility (Boyd, 2014), association (Treem & Leonardi, 2013), and communicative affordances (Hutchby, 2001).

Visibility affordances describe the ways in which social media platforms make personal information easier to view and reduce barriers to locating that information (Boyd, 2007; Treem & Leonardi, 2013). Second, association affordances are how social media platforms make people's relationships with others and their relationships to content more visible (e.g., visible friends' lists on Facebook, followers/following lists on Instagram, platform-based recommendations of accounts to follow or add, and tagged photos; Boyd & Ellison, 2008; Treem & Leonardi, 2013). Finally, communicative affordances broadly describe the diverse ways in which social media platforms and messaging apps facilitate communication with others (mass communication, one-to-one, or in groups) through the creation, sharing, and altering of content (Bucher & Helmond, 2018; Hutchby, 2001). We suggest that these affordances are particularly useful when considering the centrality of people's offline social lives and networks to their engagement with social media, and how this relationship can be used to expand "lower risk" drug access through social connections.

Social Networking and "Anchored" Relationships

Some platforms like Reddit and Twitter are more specifically designed to facilitate and encourage connection with strangers (Copland, 2021; Phua et al., 2017). However, for many people, the substantial bulk of their daily social media engagement involves connecting and communicating with people known to them *offline* (e.g., Baym, 2015; Boyd, 2014; Ellison et al., 2007; Subrahmanyam et al., 2008; Yau & Reich, 2020). "Keeping in touch with friends and family" has been identified as the

primary reason people engage with social media platforms globally (We Are Social & Hootsuite, 2022), illustrating the importance of alignment between our offline and online social lives. This type of offline/online network overlap is often most closely associated with platforms like Facebook, Snapchat, and Instagram (to varying extents) and Messaging apps like WhatsApp and Messenger (e.g., Alhabash & Ma, 2017; Phua et al., 2017).

Researchers have argued that social media, particularly social networking sites like Facebook, facilitate an expanded social networking dynamic beyond what could be maintained and managed in offline settings (Ellison et al., 2007; Haythornthwaite, 2005). Donath characterizes these social networks as "social supernets" (2007). "Social supernets" hinge on the three aforementioned affordances, and their use in a context where offline and online identities are aligned (Donath & Boyd, 2004). The clearest example of the importance of offline/online identity and network alignment in this context is Facebook. Facebook *demands* or "insists" (Davis, 2020) people sign up using their offline identities or "real" names and construct visible personal profiles (Gehl, 2016; Marwick, 2005; Van der Nagel, 2017), though some members continue to use pseudonyms that look real enough and multiple profiles can be created (Haimson & Hoffmann, 2016). A Facebook user is then encouraged to "add friends"—recognizable to the individual through their own visible profiles linked to their offline identities. Facebook streamlines users' ability to communicate with this large network via features like stories, timeline and newsfeed posts or status updates, the creation of groups, or one-to-one and group messaging. Platforms like Instagram and Snapchat take a more lenient approach that allows the use of pseudonyms. Additionally, a platform like Instagram is associated with the creation of multiple accounts, not per se linked to their identity, such as "finstas" ("fake instas"), which are often reserved for close friends only (Kang & Wei, 2020). However, Instagram and Snapchat continue to provide cues that *encourage* or "guide" (Davis, 2020) people to connect with their friends and offline social networks on the platform (e.g., synced contacts, tagging photos, suggesting accounts to follow or add, integration of personalized Bitmoji avatars, and location sharing on Snapmaps).

The ability to make one's associations with others visible provides an important means of communicating or "signaling" trustworthiness on social media (Donath, 2007; Donath & Boyd, 2004; Treem & Leonardi, 2013). Here, people can be judged not just by the information in their profiles, but by the types of people in their networks (Donath, 2007). In turn, this type of personal, information-rich landscape gives rise to increasingly normalized behaviors of investigating and gathering online information about others in, or connected to one's own social networks (Lampe et al., 2006), colloquially known as "stalking" (Antonini et al., 2019). As such, in contexts where people use social media to align their offline and online lives, platform affordances like visibility and association make it easier to place people in their offline social contexts. Zhao et al. (2008) refer to this type of social media connection as "anchored relationships." This article explores how an increased ability to "anchor" people in their local offline social networks as part of social media drug trading may facilitate the ability to leverage social supply more broadly, and in turn the harm reduction benefits associated with this type of drug market context.

Social Supply and Harm Reduction

Social supply and "social dealing" drug markets effectively represent "closed" drug market structures (May & Hough, 2004), with transactions embedded in "friendship" constructs emphasizing reciprocity rather than commercial gain between transaction partners (e.g., Parker, 2000; Potter, 2009; Werse, 2008). To take part in these drug supply networks, participants must be socially linked—meaning "friends" and "friends of friends" (Chatwin & Potter, 2014; Potter, 2009). Social supply refers to behaviors characterized by little to no profit such as sharing drugs or buying for the group at a price to cover expenses (Coomber & Moyle, 2014). However, Taylor and Potter (2013) have coined the term "social dealing" to encompass social supply networks that become more commercial in nature over time, with

bigger volumes of drugs bought and sold for larger profit margins on the part of sellers. They argue that this type of drug market is essentially a commercial market, albeit one that remains rooted in many of the norms of social supply (Taylor & Potter, 2013).

Social supply-type drug markets provide an important buffer between many, often younger, buyers and their local commercial drug market environment (Coomber & Turnbull, 2007). In these environments, the "friendship" ties between buyer and seller work to greatly lower the risks of rip-off or robbery, though that is not to say these risks are removed entirely (Jacques & Wright, 2015). Social supply increases seller accountability for factors like drug "quality" (Belackova & Vaccaro, 2013; Bright & Sutherland, 2017), and violence and victimization in this type of drug market are rare (Jacques & Wright, 2015; Mohamed & Fritsvold, 2010; Taylor & Potter, 2013). Indeed, motivations of convenience, trust, and safety often dominate among people involved in this type of drug market dynamic (Hathaway et al., 2018).

Notably, people engaging with online drug markets have cited a continued preference for social supply, either to supplement engagement with darknet markets (Barratt et al., 2016) or as an alternative to purchasing from anonymous sellers on social media (Moyle et al., 2019). Previous research has also found platforms like Snapchat and Messenger, often already in use among friendship groups, to be commonly linked to social supply dynamics. These platforms can become tools for "avoiding" interactions with commercial sellers on social media (van der Sanden et al., 2022a).

Social Supply and Social Media Drug Markets in New Zealand

In New Zealand, there is little published research specifically exploring social supply. However, there are indications that this type of drug supply is commonplace, particularly for drug types like cannabis (Rychert & Wilkins, 2022). Findings from the Illicit Drug Monitory System (IDMS)—a convenience survey of people who frequently use drugs across New Zealand's major cities—consistently indicated high levels of drug purchasing from sellers defined as "friends" or "social acquaintances," especially for cannabis and 3,4-methylenedioxymethamphetamine (MDMA) (Wilkins et al., 2017). These findings are complemented by research on the normalization of recreational drug use in New Zealand, which features some discussion of the importance of young people's social networks in brokering easy access to the aforementioned drug types (Hutton, 2010; Robertson & Tustin, 2020).

New Zealand Drug Trends Survey (NZDTS) findings drawn from a large convenience sample of New Zealanders who use drugs ($N = 23{,}500$) have indicated there may be an association between social media drug purchasing and using a more commercial seller type (van der Sanden et al., 2021). Respondents who had purchased cannabis, methamphetamine, ecstasy/MDMA, and LSD from a social media "location" were more likely to have purchased from the fixed list options of "drug dealer" or "gang member/seller" than from either a "social acquaintance" or "friend/family" (van der Sanden et al., 2021). This relationship indicates the potential for social media drug markets to push younger age groups into more commercial drug market settings, as has been suggested by researchers internationally (Demant et al., 2019). However, interviews with people who use social media and messaging apps for drug trading have also indicated that social media-facilitated social supply is often not perceived as "buying drugs off social media" by virtue of the social context surrounding transactions and more regular contact between buyer and seller (van der Sanden et al., 2022a). These findings suggest there may be a sizeable social supply undercurrent to social media drug trading in New Zealand.

The potential for increased access to more commercial seller types among young New Zealanders who engage with social media drug markets was illustrated in a recent study of Discord drug servers. Barriers to entering many of these spaces were low, but young people often contended with a melting pot of different seller types, including alleged gang-affiliates, and high levels of opportunism among members (van der Sanden et al., 2022b). New Zealand patched gangs[2] have historically been

linked to local organized crime, specifically the emergence and expansion of the methamphetamine trade since the early 2000s (e.g., Gilbert, 2013; Newbold, 2016). Recent reports suggest their involvement may be increasing and becoming more sophisticated, particularly in relation to the local drug trade and methamphetamine import, manufacture, and supply (Breetzke et al., 2022a; Wilkins et al., 2018). Historically, gangs have been linked to particular types of retail-level drug markets in New Zealand, such as "tinny houses," a type of open drug market (May & Hough, 2004) where drugs—typically cannabis, but sometimes also methamphetamine—are sold from a house that is accessible to the public (Gilbert, 2013; Wilkins & Casswell, 2003; Wilkins et al., 2005). Their alleged presence on accessible Discord drug servers highlights what may be the changing interplay between different segments of New Zealand's local drug market. It may be that social media drug markets bring different drug market groups in closer contact than previously. But equally, they may help to facilitate an increasing diversification of local drug markets, which likely ties into the opportunities presented by the broader online drug trade. This article explores this potential impact in the form of the intersection between darknet markets and local social media-facilitated social supply dynamics.

Darknet Market Trade and its Overlap with Social Media Drug Markets

Research indicates that a large share of darknet market trade is likely destined for offline resale (Aldridge & Décary-Hétu, 2016; Demant et al., 2018; Pantoja et al., 2022). Based on quantities purchased and the size of seized drug parcels, researchers suggest that most transactions are destined for offline social supply or "social dealing" contexts, rather than the wholesale market (Demant et al., 2018; Pantoja et al., 2022). Aldridge et al. (2018) argue that darknet market trading may lead to drug use among new groups of people who would otherwise not have accessed drugs through established local physical drug market channels. This may particularly be the case in geographically isolated countries with small populations like New Zealand, where the local availability and quality of popular drug types such as MDMA have historically been variable (Wilkins et al., 2017).

Whether darknet markets facilitate harm reduction outcomes for buyers and sellers has been the subject of considerable research attention, particularly in relation to their potential to reduce levels of street-level drug market violence and seller victimization (Barratt et al., 2016; Bergeron et al., 2022; Morselli et al., 2017). Darknet markets host structural features that promote reliable behaviors on the part of both buyer and seller, such as dispute resolution services, feedback ratings, and reputation metric systems (Przepiorka et al., 2017; Tzanetakis et al., 2016). Darknet-sourced drugs are often associated with "quality" and potency, and this may be attributed to the importance of seller's ratings and reputation in these settings (e.g., Bancroft & Reid, 2016; Van Hout & Bingham, 2013). Analyses of online-purchased drug samples have confirmed some drug types may be of higher purity than samples bought offline (Caudevilla et al., 2016; van der Gouwe et al., 2017).

Demant et al. (2018) contend that social media drug markets likely play a role in disseminating darknet-purchased drugs into local networks. Indeed, a growing body of literature suggests that different types of online and physical drug markets are seldom used in isolation from one another (Childs et al., 2020; Demant et al., 2018; Søgaard et al., 2019). For example, in Denmark and Sweden, researchers have found considerable overlap between the use of darknet, social media, and physical drug markets (Demant et al., 2019). The familiarity and accessibility of social media platforms (Moyle et al., 2019), and their proximity to people's social networks, are likely to mean they become the "default" channels through which darknet-sourced drugs are distributed into local drug market settings (van der Sanden et al., 2022a).

This article aims to explore how social media platforms facilitate the expansion of local social supply networks and associated harm reduction impacts. As part of this endeavor, we consider how harm reduction impacts may be further extended by the inclusion of "darknet social dealers" into these social supply drug markets.

Methods

This article presents a qualitative analysis of anonymous interviews with people who use social media to buy or sell drugs in New Zealand. The study is part of a broader project considering the impact of social media and darknet drug markets in New Zealand (see also van der Sanden et al., 2021, 2022a, 2022b). Online chat-based interviews (Bakken, 2022; Barratt, 2012; Gibson, 2020) were carried out from July 2020 to September 2021. In total, 33 people took part in interviews. We took a semi-structured approach to ensure interview questions were adaptable across a variety of different drug market roles (e.g., buyer/seller) and patterns of social media platform use. This approach also allowed us to be more responsive to any unexpected or novel issues and experiences raised by participants (Brinkmann & Kvale, 2015). The initial schedule was developed based on a literature review and the results of an earlier large-scale quantitative survey of people who purchase drugs via social media in New Zealand (van der Sanden et al., 2021). The schedule included a range of topics on how different platforms were used to buy or sell drugs, and perspectives on physical safety and drug quality.

We used the encrypted messaging app Wickr Me (referred to as Wickr throughout this article) to carry out interviews. Several factors influenced this strategy, including the nature of the research topic, the anticipated difficulties of recruiting participants from a hard-to-reach population, as well as encouraging open disclosure by interviewees (Wilkerson et al., 2014). We anticipated that many of our interviewees would likely be young (e.g., <25). People in this age group often perceive communication via online messaging to be more "relaxed" than in-person conversations with strangers, or phone calls (Barratt, 2012; Mason & Ide, 2014; Shapka et al., 2016). As such, we assumed that using a secure messaging platform such as Wickr, which enabled anonymous signup, would help many participants feel safer and more comfortable sharing their experiences (Wilkerson et al., 2014). Wickr chats are end-to-end encrypted by default and automatically incorporate message timers (on many messaging platforms such as Whatsapp, Messenger, and Telegram these need to be set manually), as well as allowing for usernames to be easily changed. This platform has been used in previous research with social media drug sellers internationally (Demant et al., 2019) and by surface web cannabis sellers and buyers (Childs et al., 2021).

We used a targeted sampling approach to recruit interview participants (Watters & Biernacki, 1989). Study adverts were posted across multiple social media platforms, and in paper-form at a dance music festival in Auckland (Lim et al., 2010). Social media adverts were posted to both Facebook and Reddit. The lead author (RV) approached the administrators of subreddits specific to New Zealand and Facebook groups related to drugs like cannabis or psychedelics as well as dance music genres often associated with certain forms of recreational drug use (e.g., Forsyth et al., 1997; Ter Bogt & Engels, 2005) for permission to advertise the study via these channels. The New Zealand drug-checking service *Know Your Stuff* also posted adverts for the study to their social media accounts on Facebook, Instagram, and Twitter. To participate, people needed to be aged over 16 and have some experience using social media to buy or sell drugs in New Zealand.

Interviews were completed online over several hours, or in some cases over several days (due to breaks between ongoing messages). The longest interview took 5 days to complete. RV used Wickr's desktop application to carry out the interviews. After completion of each interview, messages were copy-pasted into a Word document and formatted to remove participant usernames and other potentially identifying details. Participants were offered a supermarket voucher as reimbursement for their time. In addition to the 33 initial interviews conducted, 11 participants also took part in a follow-up interview (also via Wickr), which took place roughly 6 months after their initial interview. Follow-up interviews were carried out to further develop our understanding of social media drug markets in New Zealand. They provided an opportunity to clarify interpretations of existing data, as well as ask questions on additional topics that had emerged during the first round of interviews. For example, of relevance to this article, several follow-up interviews involved

interviewees who were involved in darknet social dealing and used social media platforms primarily to sell these drugs to "friends."

Data were analyzed thematically in NVivo using Braun and Clarke's Six-Step Thematic Analysis framework (Braun & Clarke, 2006, 2014, 2022). Initial coding frameworks were developed based on a combination of information from the literature review and findings generated from the first few online interviews. As data collection and analysis progressed, coding structures were further developed and refined. Initial analysis involved reading and coding interviews by hand based on descriptive data such as app types used for drugs, drug supply connections and seller types, as well as experiences of drug market risks and harms and reflections on drug price and quality. Memos were maintained for each "code group," detailing developments in thinking and noting those interviewee experiences that were particularly central to the essence of the codes within the group. Concept- and mind maps were used to clarify relationships between codes, code groups, and themes in preparation for the write-up of findings. We have opted to retain the original language used by participants in the interview excerpts presented below. In cases where slang terms are clarified, this is inserted into the excerpt in non-italicized parentheses. This research received ethics approval from the Massey University Human Ethics Committee Southern A (application code: SOA 20/22).

Findings

Contextualization of Sample

Twenty of the interviewees had only purchased drugs using social media, while a further 11 had both bought and sold drugs via social media and messaging apps. Twenty-two participants reported they had used social media and messaging apps primarily to buy drugs from people they knew or could access via shared social networks. These experiences included purchasing drugs via commercial sellers, but largely consisted of buying from and selling to "friends" and "friends of friends." Seven participants reported purchasing drugs via the darknet for personal consumption, to supply friends, or for more commercial resale purposes. Two of these participants, whose experiences form the basis of our discussion on "darknet social dealers," were involved in regular purchasing of drugs from darknet markets reportedly for the purposes of selling to people they defined as "friends," or occasionally, "friends of friends."

The median age of interviewees was 24 (IQR = 19.5–26), with the youngest interviewee being aged 16 and the oldest 39. Ten interviewees identified as female, 22 male, and 1 gender neutral. Most participants were located in New Zealand's North Island (by region: 10 = Auckland—NZ's largest city and most populous region; 10 = Wellington—New Zealand's capital and third largest city) and 10 in the South Island. Cannabis (n = 25) was the primary drug type interviewees used social media to either access or sell, followed by MDMA (n = 23), lysergic acid diethylamide (LSD) (n = 22) and ketamine (n = 9). The drug types most often bought via the darknet among interviewees were MDMA (n = 7) and LSD (n = 5). The social media platforms most often used for drug trading among interviewees were Messenger (n = 17), Snapchat (n = 17), Wickr (n = 16), and Discord (n = 12) (see also, van der Sanden et al., 2022a).

"Easy Connections": Accessing Drugs via Network Ties on Social Media

The ease of accessing different drug types on social media was commonly cited by interviewees as an important advantage of using social media and messaging apps for drug trading. Drug accessibility and choice of product have previously been emphasized as particularly high in larger, competitive selling groups on Facebook, Messenger, and Discord, among others (Bakken & Demant, 2019; van der Sanden et al., 2022b). In our study, participants using social media primarily to purchase drugs via existing social networks also cited ease of access to different drug types (see also, Bakken & Demant, 2019).

Social media and messaging app communication affordances streamlined participant abilities to communicate with different people or groups simultaneously and across a range of different platforms. This dynamic allowed them to use a broader network of contacts much faster and more conveniently:

> A simple message to the right person will get you into the "network" where everyone knows a guy…social media has definitely made it so much easier. Even compared to when I first started with drugs to now, the difference is night and day. It used to be text a guy wait a bit. Nothing? Maybe try another guy who might have. (P8, M23, buyer/seller)

> For the buyer, it's so easy to snap/message a range of contacts in one go and see who is in stock and what they have and get a reply within the hour and usually get what you need within an hour or two. And you can pick and choose who you buy from a lot easier, as all suppliers products vary….Took out the guess work and inconvenience of getting your hands on anything. You get to the point meeting people and attending festivals and after parties that you end up with quite the contact list. (P24, M31, buyer/seller)

> I used to buy through texting people. Would get names and numbers through word of mouth. I also used to go to tinny houses. Snapchat is sooo much easier and faster! (P28, F22, buyer)

The ease of maintaining large social networks on and across different social media platforms suggests the potential formation of a type of "social supply supernet" (Donath, 2007). Such networks could also be easily expanded by sending friend requests or exchanging Snapchat usernames. In turn, this could increase drug accessibility and purchasing speed within a drug market context that often involves collaboration with social contacts rather than commercial sellers.

Accountability and Transparency in Social Network-Based Drug Trading

Participants using social media to buy and sell drugs to "friends" or social connections reported perceptions of security and physical safety in social media drug trading. Sellers felt they were at lower risk of being robbed or assaulted, while buyers felt buying via "trusted" others provided protection against adulterated substances, consistent with findings in the existing social supply literature (e.g., Hathaway et al., 2018; Murphy et al., 2018). Friendship or mutually trusted ties were perceived to increase seller and buyer accountability to one another, and the transparency of the trade:

> Discord is known for having people on it who are only on there to roll (rob) others but on Snapchat the dealers are pretty much 100 percent trustworthy since you always get them through other people. (P29, M19, buyer/seller)

> Even if they're not super close, knowing who they are means if they sell you bath salts or something it'll get back to them and they'll lose customers/reputation, whereas some random FB page can just shut down and open a new one. (P27, M23, buyer/seller)

> I'd also be more worried about the dangers of the substance (applies to MDMA/coke not weed) buying anonymously through social media as opposed to friends, as I'd trust my friends to not sell me something different or cut/laced but wouldn't necessarily trust strangers. (P13, F24, buyer)

> My first choice is always someone I know. Mainly it makes me feel safer. I know it's completely my risk of taking drugs but there's a sense of "my friend won't sell me something dangerous or a dud." (P16, F26, buyer)

Importantly, several of the above excerpts highlight the ways in which participants often juxtaposed buying from people in their social networks on social media with the anonymity of sellers on platforms like Facebook, Discord, or dating apps who use fake accounts. Participants often appeared to perceive

the latter type of social media seller as particularly unaccountable. In these contexts, the information contained in a seller profile was viewed as unreliable and potentially misleading. These perceptions can be argued to reflect the lack of discernible personal information contained in fake or pseudonymous accounts, and the difficulty of "anchoring" these sellers in visible, offline social networks (Zhao et al., 2008). In turn, this influenced participant perceptions of the transparency of drug trading outcomes:

> You're really only able to judge a dealer's character through their messages/social media profile, could be far more dangerous than what you think. (P32, M19, buyer/seller)

> You never know who is genuinely at the other end….Like one (profile on Facebook) was delivery. And I was like man do I want this person to come to my house? (P11, M31, buyer)

> But also just like you don't necessarily know if the person you're dealing with has gang ties or anything. (P15, F31, buyer/seller)

An anonymous profile or page is easily created on platforms like Snapchat and Instagram, and these sellers could leverage communicative affordances to market their products more widely and effectively to a broader range of potential buyers. However, the low accountability and lack of transparency participants attributed to this type of seller could be interpreted as illustrating a crucial tension between the adaptation of visibility and association affordances to facilitate anonymous drug trading within a local drug market context, which remained rooted in physical transactions. Conversely, the way visibility and association affordances were appropriated in "social supply supernets" was a core element in facilitating participant engagement with a broader, yet more transparent and low risk local drug market context.

The Use of Platform Affordances to "Anchor" Drug Trading Relationships in Offline Social Networks

Social connections were both easier to locate on social media platforms, and easier to connect with via "friending," "adding," "following" or "messaging." The traditional process of "vetting" prospective buyers and sellers through already-trusted parties continued to form the basis of drug trades in social media drug market contexts (see also, Bakken & Demant, 2019; van der Sanden et al., 2022a). This "traditional" process of establishing trust in closed drug markets (May & Hough, 2004) was complemented by visibility and association affordances, which increased the amount of personal information people could access and use in forming judgments of potential drug contacts:

> Its sorta weird messaging "C*** B***" who has a pfp (profile picture) of him and his girlfriend at a nightclub and he "Went to school at Rangitoto College". (P12, GD25, buyer/seller)

The participant above describes the additional information communicated as part of a drug trade with a distant social connection on Facebook by virtue of their public profile. Some participants referenced the use of this type of visible information to supplement existing "vetting" procedures, or alternatively to seek information on prospective drug connections one or two steps removed from their own personal networks:

> Found the dude's Facebook, we had a mutual (friend). Hit the guy up asking about his character…. (P15, F31, buyer/seller)

> I just mainly judge them by appearance and who they are friends with, what they post about. If I see them flaunting aggression or gang related material I steer well clear. Also can usually tell a fake profile a mile away as well. (P24, M31, buyer/seller)

Both excerpts highlight the ways in which people's broader social media presence, including public profiles, and visible social networks served as avenues by which prospective drug connections could be investigated. The quote from P24 also highlights the importance of judging the overall "authenticity" of an individual's social media profile, or whether a person's social media presence reflected their offline identity by drawing on a range of available online cues. In turn, this provided a means of "anchoring" people more firmly in their respective social contexts (Zhao et al., 2008), and therefore a firmer basis on which to make judgements around who was trustworthy.

Platform features that increased the visibility of personal information and facilitated association with others were complemented by the communicative affordances of messaging apps, which enabled the formation of group chats encompassing an extensive range of social connections specifically for drug trading purposes, as described by the participant below:

> I've also been added to group chats (on Snapchat and Whatsapp). It's a variety of friends and friends of friends, etc. and people I trust….It's a melting pot of people…these are people I have met at least once either in a club, party, through work, etc who I trust very well. So I don't get attacked or get cut products. (P31, M24, buyer/seller)

In these instances, different trusted group members brought together their own trusted ties, streamlining the procedure of "vetting" through mutually trusted contacts. The group-chat function provided the ability to easily bring together different social networks—association affordances—to facilitate the creation of mutual trust between people who were likely to have been too socially distant to connect otherwise. Haythornthwaite (2005) refers to this dynamic as the "activation of latent ties." This created an expanded "social dealing" network through which drugs could be opportunistically bought and sold:

> When I come across stuff to sell I put a message out what and how much and the price. And if I want to buy I send out a message too if anyone has anything etc. And they to the same etc. (P31, M24, buyer/seller)

Taken together, an increased ability to "anchor" people in their offline social networks (Zhao et al., 2008), and the ease with which social networks could be expanded on social media indicated the potential to extend social supply and "social dealing" networks beyond what would have been possible offline. In turn, this expanded networking ability also allowed participants to encompass a wider range of potential drug connections under a more "friendship" oriented, less formal drug market structure, increasing the transparency of drug trades and the accountability of network members to one another:

> Yeah 100% makes things a lot easier, when I first started years ago, it was very dodgy, you never knew who u were buying/selling off/too just word of mouth and dodgy tinny houses with undesirables at the other side of the door. Social media has made a huge impact on ease of sales, with less risk and a broader market. (P24, M31, buyer/seller)

Darknet Drug Supply and Social Media "Social Dealing"

Two participants, P9 and P27, reported instigating "darknet social dealing" by virtue of their computer skills, and an ability to access a range of drug types at affordable prices and reliable quality without a need for prior connections to local offline suppliers. Both participants purchased large amounts of drug types such as LSD, MDMA and ketamine on the darknet then resold them via messaging apps to people they described as "friends." P9 described his trajectory into this type of social dealing arrangement:

> [I] had heard plenty of horror stories from my friends about sourcing drugs when they were younger, dodgy dealers and dodgy substances. I'm rather talented with computers and managed to find my way onto the

> darknet markets pretty easily, where the quality and the price was incredible, and super easy to make a profit off of. So I started buying off the darknet, and selling to friends, in which case using messaging apps came in very handy, especially with the secure/disappearing nature of them. (P9, M29, buyer/seller)

In this excerpt, P9 frames his involvement in "darknet social dealing" as providing an *alternative* to engagement with what he perceives as the local drug market status quo, involving "dodgy substances and dodgy dealers." The framing of social supply or social dealing as a "service" provided to friends is well-established in the drug market literature (Jacinto et al., 2008; Jacques & Wright, 2015). Additionally, the size of these "darknet social dealing" networks could be considerable (see also, Taylor & Potter, 2013), encompassing the supply of other "dealer friends" (P27—see below) and their respective buyers, with connections spread across different platforms and apps:

> Wickr there's only 2 or 3 (people), Telegram I've got a group chat which has like 10 people in it….Snapchat I only use for mostly buying weed off one guy. There's a couple of contacts I could go to if I needed to there. I've got on person I message on Signal….Then Messenger secret chats would be everyone else I know who wants to buy stuff. So like 20–50 people on there I guess. (P9, M29, buyer/seller)

> I would say 10–20 g (of MDMA) to mates, 25–50 g to dealer friends, the rest on Tor (NZ darknet market). But I've been splitting the packages 50/50 with one friend so I get 125 g per package, so 70–90ish on Tor I guess. (P27, M23, buyer/seller)

The inclusion of "darknet social dealers" in what were often already extended social supply networks could be viewed as adding an additional element of "separation" between these networks and other local physical drug market spaces. As a result, "darknet social dealing" appeared to extend the buffering effect researchers have suggested social supply has on young people's interactions with commercial drug markets (Coomber & Turnbull, 2007). "Darknet social dealing" networks could be viewed as affording their members greater control over how they interacted with their local drug market, making unwanted engagement with more "high-risk" seller types (e.g., gang-affiliated sellers) a more avoidable part of drug trading. This dynamic was to some extent mirrored by the seller's own separation from other local drug supply channels:

> Someone I know heard through the grapevine that a [local] gang was asking about who this new person selling was since somehow that made it back to them via some friend of a friend buying, so that spooked me a bit, so no more of that . (P27, M23, buyer/seller)

The potential for the darknet market to reduce barriers to commencing drug selling, and its subsequent harm reduction impacts when coupled with the convenience of social media and messaging apps as a point of access to local social networks is summarized in the excerpt below:

> [social media] made it easier for the average Joe to sell and buy rather than just gang members or undesirable people…compared to the people I used to buy off 10 years ago to who I can buy off now, the ability to get anything off the dark web has made it possible for anyone who wants to take the risk to do it. (P24, M31, buyer/seller)

Discussion

Our findings suggest that social media and messaging apps provide the opportunity to widen the social networks available to draw on for buying and selling drugs to create "social supply supernets" (Donath, 2007). We suggest this may have the effect of increasing buyer and seller capacity to transact in "low risk" drug markets based around the extension of many of the norms of social supply and "friendship."

We argue that a core factor underpinning the potential for harm reduction in these spaces is their use of platform visibility, association, and communicative affordances to more effectively and broadly "anchor" people in offline social networks and relationships (Zhao et al., 2008). This ability in large part rests on the centrality of offline social connections and networks to social media engagement. Within this expanded social supply landscape, the use of darknet markets to purchase drugs for offline resale to "friends," often via social media and messaging apps, may serve to further close off these networks from local, commercial physical drug market contexts.

We have previously observed that it is important to appreciate that social media and messaging platforms are not specifically designed to facilitate drug trading (van der Sanden et al., 2022a). In this vein, how people adapt platform affordances to facilitate drug transactions may feed into social media harm reduction impacts. These impacts are to some extent underpinned by the complex relationship between platform affordances and their adaptation to different actions, behaviors, and contexts, or the ways in which platforms *resist* and *support* user action (Davis, 2020). In this article, interview participants engaging in social supply using social media or messaging apps used visibility and association affordances (e.g., public profiles, visible mutual friends) to facilitate and *extend* trust across social connections once, or twice removed from their own networks. "Social supply supernets" were in large part enabled because participants were using these platform affordances in a context which may have more closely resembled the design intent behind their integration into platform infrastructure—the re-creation of *offline* social networks and connections *online*. As a result, participants could appropriate a platform infrastructure designed to facilitate the building and maintenance of large social networks to similarly expand a drug market context already characterized by greater security. The ability to "anchor" others in offline social networks and seek out additional information sources made it easier to broaden social supply networks while keeping drug market harms such as victimization or receiving adulterated drugs to a minimum. The usefulness of "anchored relationships" to social media drug trading may be particularly important given that many of these dynamics appear to be predominantly local in scope (Moyle et al., 2019). As a result, social media drug markets occupy a type of hybrid online/offline drug market space within which pseudonymity may be difficult to manage without increasing the potential for drug market harms such as victimization.

Participants often equated anonymous seller profiles with greater potential for drug market harms such as drug adulteration. These perceptions to some extent reflected the limited personal information on a selling profile, and limited ability for onlookers to "anchor" (Zhao et al., 2008) the seller in a particular local social context. However, as part of more anonymous social media drug markets buyer and seller may adapt platform visibility, association and communication affordances to function as sources of information around trustworthiness in the absence of an ability to "anchor" others in local social networks. For example, research by Bakken (2020) has explored how social media drug sellers on Facebook construct fake profiles in a manner that conveys information about themselves and their operation to prospective buyers using professional or subcultural cues (visibility and association affordances). Additionally, McCulloch and Furlong (2019) have emphasized the potential for buyers using anonymous sellers on social media to gather information by looking at factors like the number of account followers (association affordances), and examining their posts and profiles (visibility affordances) and comments left from previous buyers (communication, association, and visibility affordances). The latter dynamic indicates a type of informal "review system," which has been documented as commonplace on more anonymous, competitive social media drug markets, providing buyers and sellers with a pathway to reducing the potential for victimization in these contexts (Bakken & Demant, 2019; van der Sanden et al., 2022b).

Findings presented in this article also provide some insight into the interplay between darknet market and social media drug trading. They provide support for the argument that darknet markets may "democratize" drug market entry, by removing the need for prior connections to local suppliers (e.g., Aldridge & Decary-Hétu, 2016; Martin, 2018). Our findings suggest the combination of

darknet drug supply and social media drug trading could provide a source of local drug market diversification, enabling buyers and sellers a greater level of choice in how and with whom they transact. However, we also point out that these "darknet social dealing" networks may raise questions around local drug market "gentrification" (Martin, 2018). For example, the normalization of social supply (Coomber et al., 2016) is tied into the rise of "acceptable" or "sensible" recreational drug use around drug types such as cannabis, MDMA and psychedelics among some population groups in Western countries (Chatwin & Potter, 2014; Jacinto et al., 2008). These more "normalized" drug types are also among some of those most often purchased via darknet markets (e.g., Kruithof et al., 2016). Furthermore, both of the "darknet social dealers" featured in this article broadly fit the demographic characteristics linked to darknet buyers (white, <25, male, most likely recreational users or "psychonauts," tech-savvy; e.g., Barratt et al., 2016; Van Hout & Bingham, 2013). These demographic and drug use attributes are likely to influence the types of local groups who benefit from "darknet social dealing." As such, the harm reduction impacts of this increased local drug market diversification may be limited to those demographics and drug using groups who are already less likely to experience drug market harms, such as exposure to arrest or violent victimization (e.g., Jacques & Wright, 2015; Mohamed & Fritsvold, 2010). This is in line with what Martin (2018) has suggested is the low likelihood for "low violence" digital drug supply channels like darknet markets to meaningfully reduce drug market harms in more volatile local drug market settings. There remains an absence of research on the differential impact of social media drug markets, particularly how platforms may be used to facilitate transactions in more high-risk local drug markets for drug types such as methamphetamine.

Finally, a climate of increased drug availability on social media must be understood as interlinked with the presentation of drugs on social media more generally. Easily accessible online content and information (e.g., Barenholtz et al., 2021), alongside targeted content and adverts (e.g., Bol et al., 2020), underscore the potential for increases in substance misuse, particularly among younger age groups. These factors are likely to have considerable harm reduction implications not discussed in this article. Oksanen et al. (2021) have identified a link between online drug purchasing and young people who may be more vulnerable to developing patterns of drug misuse. As such, the impact of social media drug availability on trajectories and patterns of drug use is an important topic for future research.

Limitations

This research is based on a small sample of people who use social media to buy and or sell drugs in New Zealand. New Zealand has a somewhat unusual drug market by international standards, reflecting geographic isolation and a small population, which manifests in relatively low availability and quality and high prices for drug types like MDMA and LSD (Wilkins et al., 2018). This may impact the generalizability of our findings to the wider understanding of the drug markets in other countries. On a similar note, our findings around "darknet social dealers" may also reflect New Zealand's unique drug market context; darknets may provide a particularly important supply avenue to supplement limited local drug availability in New Zealand via traditional smuggling routes (Moss-Mason, 2019). Many of our participants were primarily buyers, whose knowledge of drug supply, selling and drug networks may therefore be limited.

There is great variation in social media platform features and how people use them to reveal or hide personal information (e.g., setting profiles to private on platforms like Facebook or Instagram, or turning off "quick add" on Snapchat). Not all people will engage with these features in the same way, if at all, as part of social media drug trading behaviors.

Conclusion

We have suggested that the use of social media and messaging apps to expand drug access via established social networks facilitates the development of extended "social supply supernets." We argue this

allows buyers and sellers to leverage an expanded and more secure local drug market network where risks such as adulterated substances and victimization may be reduced. The potential for harm reduction from this type of social media drug market may reflect a higher degree of platform *support* for drug trading behaviors based on extended social networking with people one already knows. On social media, features such as public profiles, and visible "friends" or "followers" networks can be used to "anchor" people in their respective offline social contexts. In turn, this increased transparency means that drug transactions can be more easily and broadly embedded in "friendship" norms emphasizing reciprocity and benevolent trading behaviors. We suggest that the addition of "darknet social dealers" to this expanded social supply dynamic may increase the extent to which social supply serves to buffer network members from physical drug markets and violent competition and victimization. This article points to the potential of social media and messaging apps to expand both the breadth of social supply and its associated harm-reduction benefits.

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Notes

1. We use the terms 'offline' and 'online' throughout this paper to mirror how social media-facilitated social supply was represented and characterized among our interview participants. However, we acknowledge that online and offline may not be clearly differentiated as part of people's contemporary day-to-day lives.
2. In New Zealand 'patched gangs' refer to a range of different gang styles, all of which typically wear back patches. These include street gangs (e.g., the Mongrel Mob and Black Power—the two largest in the country), outlaw motorcycle gangs (e.g., the Hells Angels, Head Hunters, or more recently, the Comancheros and the Mongols), and LA-style street gangs (e.g., the Killer Beez) (Gilbert, 2013; Breetzke et al., 2022b).

References

Adkisson, T. (2022, 8 June). *Drug sales through social media are increasing*. Newsy. https://www.newsy.com/stories/drug-sales-through-social-media-are-increasing/

Aldridge, J., & Décary-Hétu, D. (2016). Hidden wholesale: The drug diffusing capacity of online drug cryptomarkets. *International Journal of Drug Policy*, *35*, 7–15. https://doi.org/10.1016/j.drugpo.2016.04.020

Aldridge, J., & Decary-Hétu, D. (2016). Cryptomarkets and the future of illicit drug markets. In J. Mounteney, A. Oteo, & P. Griffiths (Eds.), *The internet and drug markets* (pp. 23–32). Publications Office of the European Union.

Aldridge, J., Stevens, A., & Barratt, M. J. (2018). Will growth in cryptomarket drug buying increase the harms of illicit drugs? *Addiction*, *113*(5), 789–796. https://doi.org/10.1111/add.13899

Alhabash, S., & Ma, M. (2017). A tale of four platforms: Motivations and uses of Facebook, Twitter, Instagram, and Snapchat among college students? *Social Media + Society*, *3*(1), 1–13. https://doi.org/10.1177/2056305117691544

Antonini, A., Gomez Mejia, G., & Lupi, L. (2019). All we do is" stalking" studying new forms of reading in social networks. In Proceedings of the 30th ACM Conference on hypertext and Social Media, Hof, Germany.

Bakken, S. A. (2020). Drug dealers gone digital: Using signalling theory to analyse criminal online personas and trust. *Global Crime*, *22*(1), 51–73. https://doi.org/10.1080/17440572.2020.1806826

Bakken, S. A. (2022). App-based textual interviews: Interacting with younger generations in a digitalized social reality. *International Journal of Social Research Methodology*, *0*(0), 1–14. https://doi.org/10.1080/13645579.2022.2087351

Bakken, S. A., & Demant, J. J. (2019). Sellers' risk perceptions in public and private social media drug markets. *International Journal of Drug Policy*, *73*, 255–262. https://doi.org/10.1016/j.drugpo.2019.03.009

Bancroft, A., & Reid, P. S. (2016). Concepts of illicit drug quality among darknet market users: Purity, embodied experience, craft and chemical knowledge. *International Journal of Drug Policy*, *35*, 42–49. https://doi.org/10.1016/j.drugpo.2015.11.008

Barenholtz, E., Krotulski, A. J., Morris, P., Fitzgerald, N. D., Le, A., Papsun, D. M., Logan, B. K., Hahn, W. E., Goldberger, B. A., & Cottler, L. B. (2021). Online surveillance of novel psychoactive substances (NPS): Monitoring Reddit discussions as a predictor of increased NPS-related exposures. *International Journal of Drug Policy*, *98*, 103393. https://doi.org/10.1016/j.drugpo.2021.103393

Barratt, M. J. (2012). The efficacy of interviewing young drug users through online chat. *Drug and Alcohol Review*, *31*(4), 566–572. https://doi.org/10.1111/j.1465-3362.2011.00399.x

Barratt, M. J., Ferris, J. A., & Winstock, A. R. (2016). Safer scoring? Cryptomarkets, social supply and drug market violence. *International Journal of Drug Policy*, *35*, 24–31. https://doi.org/10.1016/j.drugpo.2016.04.019

Baym, N. K. (2015). *Personal connections in the digital age (2nd ed.)*. Polity Press.

Belackova, V., & Vaccaro, C. A. (2013). "A friend with weed is a friend indeed" understanding the relationship between friendship identity and market relations among marijuana users. *Journal of Drug Issues*, *43*(3), 289–313. https://doi.org/10.1177/0022042613475589

Bergeron, A., Décary-Hétu, D., & Ouellet, M. (2022). Conflict and victimization in online drug markets. *Victims & Offenders*, *17*(3), 350–371. https://doi.org/10.1080/15564886.2021.1943090

Bol, N., Strycharz, J., Helberger, N., van de Velde, B., & de Vreese, C. H. (2020). Vulnerability in a tracked society: Combining tracking and survey data to understand who gets targeted with what content. *New Media & Society*, *22*(11), 1996–2017. https://doi.org/10.1177/1461444820924631

Boyd, D. (2007). Why youth <3 social network sites: The role of networked publics in teenage social life. In D. Buckingham (Ed.), *Youth, identity and digital Media* (pp. 119–142). The MIT Press.

Boyd, D. (2014). *It's complicated: The social lives of networked teens*. Yale University Press.

Boyd, D., & Ellison, N. B. (2008). Social networks sites: Definition, history and scholarship. *Journal of Computer-Mediatied Communication*, *13*, 210–230. https://doi.org/10.1111/j.1083-6101.2007.00393.x

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2014). What can "thematic analysis" offer health and wellbeing researchers? *International Journal on Qualitative Studies of Health and Wellbeing*, *9*(1), 26152. https://doi.org/https://doi.org/10.3402/qhw.v9.26152

Braun, V., & Clarke, V. (2022). Conceptual and design thinking for thematic analysis. *Qualitative Psychology*, *9*(1), 3–26. https://doi.org/10.1037/qup0000196

Breetzke, G. D., Curtis-Ham, S., Gilbert, J., & Tibby, C. (2022a). Gang membership and gang crime in New Zealand: A national study identifying spatial risk factors. *Criminal Justice and Behavior*, *49*(8), 1154–1172. https://doi.org/10.1177/00938548211034200

Breetzke, G. D., Curtis-Ham, S., Gilbert, J., & Tibby, C. (2022b). The mongrel mob or head hunters? The association between neighbourhood-level factors on different types of gang membership in aotearoa/New Zealand. *Journal of Criminology*, *55*(4), 433–450. https://doi.org/10.1177/26338076221121402

Bright, D. A., & Sutherland, R. (2017). "Just doing a favor for a friend": The social supply of ecstasy through friendship networks. *Journal of Drug Issues*, *47*(3), 492–504. https://doi.org/https://doi.org/10.1177/0022042617704004

Brinkmann, S., & Kvale, S. (2015). *Interviews: Learning the craft of qualitative research interviewing* (3rd ed.). Sage.

Bucher, T., & Helmond, A. (2018). The affordances of social media platforms. In J. Burgess, A. Marwick, & T. Poell (Eds.), *The SAGE handbook of social media* (pp. 233–253). Sage.

Carr, C. T., & Hayes, R. A. (2015). Social media: Defining, developing, and divining. *Atlantic Journal of Communication*, *23*(1), 46–65. https://doi.org/10.1080/15456870.2015.972282

Caudevilla, F., Ventura, M., Fornís, I., Barratt, M. J., Vidal, C., Quintana, P., Muñoz, A., & Calzada, N. (2016). Results of an international drug testing service for cryptomarket users. *International Journal of Drug Policy*, *35*, 38–41. https://doi.org/10.1016/j.drugpo.2016.04.017

Chatwin, C., & Potter, G. (2014). Blurred boundaries: The artificial distinction between "use" and "supply" in the UK cannabis market. *Contemporary Drug Problems*, *41*(4), 536–550. https://doi.org/10.1177/0091450914567120

Childs, A., Bull, M., & Coomber, R. (2021). Beyond the dark web: Navigating the risks of cannabis supply over the surface web. Drugs: Education. *Prevention and Policy*, *29*(4), 1–12. https://doi.org/10.1080/09687637.2021.1916439

Childs, A., Coomber, R., Bull, M., & Barratt, M. J. (2020). Evolving and diversifying selling practices on drug cryptomarkets: An exploration of off-platform "direct dealing". *Journal of Drug Issues*, *50*(2), 173–190. https://doi.org/10.1177/0022042619897425

Coomber, R. (2006). *Pusher Myths: Re-situating the drug dealer*. Free Association Books.

Coomber, R., & Moyle, L. (2014). Beyond drug dealing: Developing and extending the concept of 'social supply'of illicit drugs to 'minimally commercial supply'. *Drugs: Education, Prevention and Policy*, *21*(2), 157–164. https://doi.org/10.3109/09687637.2013.798265

Coomber, R., Moyle, L., & South, N. (2016). The normalisation of drug supply: The social supply of drugs as the "other side" of the history of normalisation. *Drugs: Education, Prevention and Policy*, *23*(3), 255–263. https://doi.org/10.3109/09687637.2015.1110565

Coomber, R., & Turnbull, P. (2007). Arenas of drug transactions: Adolescent cannabis transactions in England—social supply. *Journal of Drug Issues*, *37*(4), 845–865. https://doi.org/https://doi.org/10.1177/002204260703700406

Copland, S. (2021). Dark, clear or brackish? Using reddit to break down the binary of the dark and clear web. *Continuum*, *35*(5), 719–731. https://doi.org/10.1080/10304312.2021.1983255

Davis, J. L. (2020). *How artifacts afford: The power and politics of everyday things*. MIT Press.

Davis, J. L., & Chouinard, J. B. (2017). Theorizing affordances: From request to refuse. *Bulletin of Science, Technology & Society*, *36*(4), 241–248. https://doi.org/10.1177/0270467617714944

Demant, J., & Bakken, S. A. (2019). Technology-facilitated drug dealing via social media in the Nordic countries, background paper commissioned for EU Drug Markets Report 2019, European Monitoring Centre for Drugs and Drug Addiction, Lisbon.

Demant, J., Bakken, S. A., Oksanen, A., & Gunnlaugsson, H. (2019). Drug dealing on Facebook, Snapchat and Instagram: A qualitative analysis of novel drug markets in the Nordic countries. *Drug and Alcohol Review*, *38*(4), 377–385. https://doi.org/10.1111/dar.12932

Demant, J., Munksgaard, R., & Houborg, E. (2018). Personal use, social supply or redistribution? Cryptomarket demand on Silk Road 2 and Agora. *Trends in Organized Crime*, *21*(1), 42–61. https://doi.org/10.1007/s12117-016-9281-4

Donath, J. (2007). Signals in social supernets. *Journal of Computer-Mediated Communication*, *13*(1), 231–251. https://doi.org/10.1111/j.1083-6101.2007.00394.x

Donath, J., & Boyd, D. (2004). Public displays of connection. *BT technology Journal*, *22*(4), 71–82. https://doi.org/10.1023/B:BTTJ.0000047585.06264.cc

Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends:" Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, *12*(4), 1143–1168. https://doi.org/10.1111/j.1083-6101.2007.00367.x

Evans, S. K., Pearce, K. E., Vitak, J., & Treem, J. W. (2017). Explicating affordances: A conceptual framework for understanding affordances in communication research. *Journal of Computer-Mediated Communication*, *22*(1), 35–52. https://doi.org/10.1111/jcc4.12180

Forsyth, A. J., Barnard, M., & McKegany, N. P. (1997). Musical preference as an indicator of adolescent drug use. *Addiction*, *92*(10), 1317–1325. https://doi.org/10.1111/j.1360-0443.1997.tb02850.x

Gehl, R. W. (2016). Power/freedom on the dark web: A digital ethnography of the Dark Web Social Network. *New Media & Society*, *18*(7), 1219–1235. https://doi.org/10.1177/1461444814554900

Gibson, J. J. (1979). *The Ecological Approach to Visual Perception*. Lawrence Erlbaum Associates.

Gibson, K. (2020). Bridging the digital divide: Reflections on using WhatsApp instant messenger interviews in youth research. *Qualitative Research in Psychology*, *19*(3), 611–631. https://doi.org/10.1080/14780887.2020.1751902

Gilbert, J. (2013). *Patched: The history of gangs in New Zealand*. Auckland University Press.

Haimson, O. L., & Hoffmann, A. L. (2016). Constructing and enforcing" authentic" identity online: Facebook, real names, and non-normative identities. *First Monday*, *21*(6). https://doi.org/10.5210/fm.v21i6.6791

Hathaway, A. D., Mostaghim, A., Erickson, P. G., Kolar, K., & Osborne, G. (2018). "It's really no big deal": The role of social supply networks in normalizing use of cannabis by students at Canadian universities. *Deviant Behavior*, *39*(12), 1672–1680. https://doi.org/10.1080/01639625.2017.1411047

Haythornthwaite, C. (2005). Social networks and internet connectivity effects. Information. *Community & Society*, *8*(2), 125–147. https://doi.org/10.1080/13691180500146185

Hoffman, J. (2022, 19 May). *Fentanyl tainted pills bought on social media cause youth drug deaths to soar*. The New York Times. https://www.nytimes.com/2022/05/19/health/pills-fentanyl-social-media.html

Hogan, B., & Quan-Haase, A. (2010). Persistence and change in social media. *Bulletin of Science, Technology & Society*, *30*(5), 309–315. https://doi.org/10.1177/0270467610380012

Hutchby, I. (2001). Technologies, texts and affordances. *Sociology*, *35*(2), 441–456. https://doi.org/10.1017/S0038038501000219

Hutton, F. (2010). Kiwis, clubs and drugs: Club cultures in Wellington, New Zealand. *Australian & New Zealand Journal of Criminology*, *43*(1), 91–111. https://doi.org/10.1375/acri.43.1.91

Jacinto, C., Duterte, M., Sales, P., & Murphy, S. (2008). "I'm not a real dealer": The identity process of ecstasy sellers. *Journal of Drug Issues*, *38*(2), 419–444. https://doi.org/https://doi-org/10.1177/002204260803800203

Jacques, S., & Wright, R. (2015). *Code of the suburb: Inside the world of young middle-class drug dealers*. University of Chicago Press.

Kang, J., & Wei, L. (2020). Let me be at my funniest: Instagram users' motivations for using Finsta (aka, fake Instagram). *The Social Science Journal*, *57*(1), 58–71. https://doi.org/10.1016/j.soscij.2018.12.005

Kruithof, K., Aldridge, J., Décary-Hétu, D., Sim, M., Dujso, E., & Hoorens, S. (2016). *Internet-facilitated drugs trade: An analysis of the size, scope and the role of The Netherlands*. RAND Europe.

Lampe, C., Ellison, N., & Steinfield, C. (2006). *A Face (book) in the crowd: Social searching vs. social browsing 20th anniversary conference on computer supported cooperative work*, Banff, AB, Canada.

Lenton, S., & Single, E. (1998). The definition of harm reduction. *Drug and Alcohol Review*, *17*(2), 213–219. https://doi.org/10.1080/09595239800187011

Lerman, R., & De Vynck, G. (2021, 28 September). *Snapchat, TikTok, Instagram face pressure to stop illegal drug sales as overdose deaths soar*. The Washington Post. https://www.washingtonpost.com/technology/2021/09/28/tiktok-snapchat-fentanyl/.

Lim, M. S., Hellard, M. E., Hocking, J. S., Spelman, T. D., & Aitken, C. K. (2010). Surveillance of drug use among young people attending a music festival in Australia, 2005–2008. *Drug and Alcohol Review*, *29*(2), 150–156. https://doi.org/10.1111/j.1465-3362.2009.00090.x

Martin, J. (2018). Cryptomarkets, systemic violence and the 'gentrification hypothesis'. *Addiction*, *113*(5), 797–798. https://doi.org/10.1111/add.14029

Marwick, A. E. (2005). *'I'ma lot more interesting than a Friendster profile': Identity presentation, authenticity and power in social networking services association of internet researchers*. Available at SSRN: https://ssrn.com/abstract=1884356

Mason, D. M., & Ide, B. (2014). Adapting qualitative research strategies to technology savvy adolescents. *Nurse Researcher*, *21*, 5. https://doi.org/10.7748/nr.21.5.40.e1241

May, T., & Hough, M. (2004). Drug markets and distribution systems. *Addiction Research & Theory*, *12*(6), 549–563. https://doi.org/https://doi.org/10.1080/16066350412331323119

McCormick, E. (2021, 23 December). Killed by a pill bought on social media: The counterfeit drugs poisoning US teens. The Guardian. https://www.theguardian.com/us-news/2021/dec/22/teen-fentanyl-deaths-pills-social-media?CMP=Share_iOSApp_Other

McCulloch, L., & Furlong, S. (2019). *DM for details: Selling drugs in the age of social media*. Volteface. https://volteface.me/publications/dm-details-selling-drugs-age-social-media/

Moeller, K. (2022). Hybrid governance in online drug distribution. *Contemporary Drug Problems*, *49*(4), 491–504. https://doi.org/10.1177/00914509221101212

Mohamed, A. R., & Fritsvold, E. D. (2010). *Dorm room dealers*. Lynne Rienner Publishers.

Morselli, C., Décary-Hétu, D., Paquet-Clouston, M., & Aldridge, J. (2017). Conflict management in illicit drug cryptomarkets. *International Criminal Justice Review*, *27*(4), 237–254. https://doi.org/10.1177/1057567717709498

Moss-Mason, L. (2019). Drugs on the internet: Mapping the terrain of engagement with darknet drug cryptomarkets in New Zealand [Master's thesis, Victoria University of Wellington].

Moyle, L., Childs, A., Coomber, R., & Barratt, M. J. (2019). #Drugsforsale: An exploration of the use of social media and encrypted messaging apps to supply and access drugs. *International Journal of Drug Policy*, *63*, 101–110. https://doi.org/10.1016/j.drugpo.2018.08.005

Murphy, F., Murphy, S., Sales, P., & Lau, N. (2018). Examining social supply among nonmedical prescription stimulant users in the San Francisco Bay Area. *International Journal of Drug Policy*, *54*, 68–76. https://doi.org/10.1016/j.drugpo.2017.11.015

Newbold, G. (2016). *Crime, law and justice in New Zealand*. Taylor & Francis.

Nichols, S. (2020, 24 August). Social media has provided a new marketplace for drugs and police are struggling to keep up. ABC News. https://www.abc.net.au/news/2020-08-24/rise-and-challenge-of-social-media-drug-dealing/12545320

Oksanen, A., Miller, B. L., Savolainen, I., Sirola, A., Demant, J., Kaakinen, M., & Zych, I. (2021). Social media and access to drugs online: A nationwide study in the United States and Spain among adolescents and young adults. *European Journal of Psychology Applied to Legal Context*, *13*(1), 29–36. https://doi.org/10.5093/ejpalc2021a5

Pantoja, F., McVie, S., & Morales-Gómez, A. (2022). Deal or no-deal? Using administrative data to explore buyer motivation in online drug purchases and its association with community risk factors in Scotland. *International Journal of Drug Policy*, *103*, 103647. https://doi.org/10.1016/j.drugpo.2022.103647

Parker, H. (2000). How young britons obtain their drugs: Drugs transactions at the point of consumption. *Crime Prevention Studies*, *11*, 59–82.

Phua, J., Jin, S. V., & Kim, J. J. (2017). Uses and gratifications of social networking sites for bridging and bonding social capital: A comparison of Facebook, Twitter, Instagram, and Snapchat. *Computers in Human Behavior*, *72*, 115–122. https://doi.org/10.1016/j.chb.2017.02.041

Potter, G. (2009). Exploring retail-level drug distribution: Social supply,"real" dealers and the user/dealer interface. In Z. Demetrovics, J. Fountain, & K. Ludwig (Eds.), *Old and new policies, theories, research methods and drug users across Europe* (pp. 50–74). PABST Science Publishers.

Przepiorka, W., Norbutas, L., & Corten, R. (2017). Order without law: Reputation promotes cooperation in a cryptomarket for illegal drugs. *European Sociological Review*, *33*(6), 752–764. https://doi.org/https://doi.org/10.1093/esr/jcx072

Robertson, K. J., & Tustin, K. (2020). Control of recreational cannabis in a New Zealand university sample: Perceptions of informal and formal controls. *Substance Abuse: Research and Treatment*, *14*, 1–12. https://doi.org/10.1177/1178221820953397

Rychert, M., & Wilkins, C. (2022). What are the barriers and prospects for establishing cannabis social clubs in New Zealand? In M. Pardal (Ed.), *The cannabis social club* (pp. 57–72). Routledge.

Shapka, J. D., Domene, J. F., Khan, S., & Yang, L. M. (2016). Online versus in-person interviews with adolescents: An exploration of data equivalence. *Computers in Human Behavior*, *58*, 361–367. https://doi.org/10.1016/j.chb.2016.01.016

Søgaard, T. F., Torsten, K., Haller, M. B., & Hunt, G. (2019). Ring and bring drug services: Delivery dealing and the social life of a drug phone. *International Journal of Drug Policy*, *69*, 8–15. https://doi.org/10.1016/j.drugpo.2019.02.003

Subrahmanyam, K., Reich, S. M., Waechter, N., & Espinoza, G. (2008). Online and offline social networks: Use of social networking sites by emerging adults. *Journal of Applied Developmental Psychology*, *29*(6), 420–433. https://doi.org/10.1016/j.appdev.2008.07.003

Taylor, M., & Potter, G. R. (2013). From "social supply" to "real dealing" drift, friendship, and trust in drug-dealing careers. *Journal of Drug Issues*, *43*(4), 392–406. https://doi.org/10.1177/0022042612474974

Ter Bogt, T. F. M., & Engels, R. C. M. E. (2005). "Partying" hard: Party style, motives for and effects of MDMA use at rave parties. *Substance use & Misuse*, *40*(9-10), 1479–1502. https://doi.org/10.1081/JA-200066822

Treem, J. W., & Leonardi, P. M. (2013). Social media use in organizations: Exploring the affordances of visibility, editability, persistence, and association. *Annals of the International Communication Association*, *36*(1), 143–189. https://doi.org/10.1080/23808985.2013.11679130

Tzanetakis, M., Kamphausen, G., Werse, B., & von Laufenberg, R. (2016). The transparency paradox. Building trust, resolving disputes and optimising logistics on conventional and online drugs markets. *International Journal of Drug Policy*, *35*, 58–68. https://doi.org/10.1016/j.drugpo.2015.12.010

van der Gouwe, D., Brunt, T. M., van Laar, M., & van der Pol, P. (2017). Purity, adulteration and price of drugs bought on-line versus off-line in The Netherlands. *Addiction*, *112*(4), 640–648. https://doi.org/10.1111/add.13720

Van der Nagel, E. (2017). From usernames to profiles: The development of pseudonymity in internet communication. *Internet Histories*, *1*(4), 312–331. https://doi.org/10.1080/24701475.2017.1389548

van der Sanden, R., Wilkins, C., Romeo, J. S., Rychert, M., & Barratt, M. J. (2021). Predictors of using social media to purchase drugs in New Zealand: Findings from a large-scale online survey. *International Journal of Drug Policy*, *98*, 103430. https://doi.org/10.1016/j.drugpo.2021.103430

van der Sanden, R., Wilkins, C., Rychert, M., & Barratt, M. J. (2022a). 'Choice' of social media platform or encrypted messaging app to buy and sell illegal drugs. *International Journal of Drug Policy*, *108*, 103819. https://doi.org/10.1016/j.drugpo.2022.103819

van der Sanden, R., Wilkins, C., Rychert, M., & Barratt, M. J. (2022b). The use of discord servers to buy and sell drugs. *Contemporary Drug Problems*, *49*(4), 453–477. https://doi.org/10.1177/00914509221095279

Van Hout, M. C., & Bingham, T. (2013). 'Surfing the Silk Road': A study of users' experiences. *International Journal of Drug Policy*, *24*(6), 524–529. https://doi.org/10.1016/j.drugpo.2013.08.011

Watters, J. K., & Biernacki, P. (1989). Targeted sampling: Options for the study of hidden populations. *Social Problems*, *36*(4), 416–430. https://doi.org/10.1525/sp.1989.36.4.03a00070

We Are Social, & Hootsuite (2022). *Special report: Digital 2022*. Retrieved 3 March 2022 from https://wearesocial.com/uk/blog/2022/01/digital-2022/

Werse, B. (2008). Retail markets for cannabis–users, sharers, go-betweens and stash dealers. In D. J. Korf (Ed.), *Cannabis in Europe: Dynamics in perception, policy and markets* (pp. 106–123). PABST Science Publishers.

Wilkerson, J. M., Iantaffi, A., Grey, J. A., Bockting, W. O., & Rosser, B. S. (2014). Recommendations for internet-based qualitative health research with hard-to-reach populations. *Qualitative Health Research*, *24*(4), 561–574. https://doi.org/10.1177/1049732314524635

Wilkins, C., & Casswell, S. (2003). Organized crime in cannabis cultivation in New Zealand: An economic analysis. *Contemporary Drug Problems*, *30*(4), 757–777. https://doi.org/https://doi.org/10.1177/009145090303000403

Wilkins, C., Prasad, J., Romeo, J., & Rychert, M. (2017). *Recent trends in illegal drug use in New Zealand, 2006–2016*. Massey University.

Wilkins, C., Reilly, J. L., & Casswell, S. (2005). Cannabis 'tinny' houses in New Zealand: Implications for the use and sale of cannabis and other illicit drugs in New Zealand. *Addiction*, *100*(7), 971–980. https://doi.org/10.1111/j.1360-0443.2005.01134.x

Wilkins, C., Romeo, J. S., Rychert, M., Prasad, J., & Graydon-Guy, T. (2018). Determinants of high availability of methamphetamine, cannabis, LSD and ecstasy in New Zealand: Are drug dealers promoting methamphetamine rather than cannabis? *International Journal of Drug Policy*, *61*, 15–22. https://doi.org/10.1016/j.drugpo.2018.09.007

Yau, J. C., & Reich, S. M. (2020). Buddies, friends, and followers: The evolution of online friendships. In N. Van Zalk & C. P. Monks (Eds.), *Online peer engagement in adolescence* (pp. 18–34). Routledge.

Zhao, S., Grasmuck, S., & Martin, J. (2008). Identity construction on Facebook: Digital empowerment in anchored relationships. *Computers in Human Behavior*, *24*(5), 1816–1836. https://doi.org/10.1016/j.chb.2008.02.012

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